

This listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

1. (Currently amended) A system operated by a service provider for tracking service personnel of a subscriber, comprising:
- a portable wireless device operated by a service person of the subscriber;
- means for causing the portable wireless device to automatically transmit a signal to the service provider so that its location can be determined;
- location identification means responsive to the transmitted signal for acquiring location data of the portable wireless device;
- a processor at a wireless location of the service provider for receiving the location data and for converting positions based on the location data to corresponding street addresses using a database for converting coordinate pairs to street addresses;
- report generation means at a location of the service provider for generating a service person track report based on the corresponding street addresses; and
- means for transmitting ~~thereby enabling~~ the service person track report ~~to be~~ generated by the ~~wireless~~ service provider ~~and transmitted to a~~ to the subscriber in order to track a service person.
2. (Original) The system of claim 1, wherein the location identification means acquires location data based on the detection of a specific phone number associated with tracking service personnel.

3. (Original) The system of claim 2, wherein the location identification means further acquires location data based on the detection of an emergency phone number.
4. (Original) The system of claim 3, wherein the detection is performed by a mobile telephone switching office.
5. (Original) The system of claim 4, wherein the location identification means forwards the location data to a first device if the specific phone number is detected and forwards the location data to a second device if the emergency phone number is detected.
6. (Original) The system of claim 5, wherein the first device is the processor and the second device is one of a public service answering point, an emergency services router, and a database coupled to a public service answering point.
7. (Original) The system of claim 1, wherein the location data is based on a wireless network-based time difference of arrival (TDOA) computation.
8. (Original) The system of claim 1, wherein the location data is based on a wireless network-based angle of arrival (AOA) computation.
9. (Original) The system of claim 1, wherein the location data is based on a combination of wireless network-based time difference of arrival (TDOA) and angle of arrival (AOA) computations.
10. (Original) The system of claim 1, wherein the location data is based on a location pattern matching (LPM) computation.
11. (Original) The system of claim 1, wherein the location data is based on a global positioning system (GPS) computation.

12. (Original) The system of claim 11, wherein the portable wireless device includes a GPS receiver.

13. (Currently amended) A system operated by a service provider for tracking a subscriber's service personnel, comprising:

a portable wireless device operated by a service person of the subscriber;

means for causing the portable wireless device to automatically transmit a signal to the service provider so that its location can be determined;

location identification means responsive to the transmitted signal for acquiring location data of the portable wireless device;

a processor at a ~~wireless~~ location of the service provider for converting positions based on the location data to corresponding street addresses using a database, the database comprising a geographic information system (GIS);

report generation means for generating a service person track report at a location of the service provider based on ~~the~~ corresponding street addresses; and

means for transmitting ~~thereby enabling~~ the service person track report ~~to be~~ generated by the wireless service provider ~~and transmitted to the~~ a subscriber in order to track a the service person.

14. (Original) The system of claim 13, wherein the location identification means acquires location data according to a periodic time interval.

15. (Original) The system of claim 13, wherein the service person track report is used by the subscriber to prepare a bill.

16. (Original) The system of claim 13, wherein the service person track report is used by the subscriber to gather efficiency statistics on the service person or on a group of service persons.

17. (Original) The system of claim 13, wherein the service person track report includes information indicating a duration of time the portable wireless device was at a specific street address.

18. (Currently amended) A system for tracking service personnel of a subscriber, comprising:

a portable wireless device operated by a service person of the subscriber;

means for causing the portable wireless device to automatically transmit a signal to the service provider so that its location can be determined;

location identification means responsive to the transmitted signal for acquiring location data of the portable wireless device;

a processor at a ~~wireless~~ service provider for converting positions based on the location data to corresponding street addresses using a database for converting coordinate pairs to street addresses, and for comparing the positions to a schedule of predetermined sites in order to confirm whether a site visit was made;

means for generating a service person track report based on at least the corresponding street addresses; and

means for generating ~~thereby enabling~~ the service person track report to be generated by ~~a wireless carrier~~ the service provider and transmitted to a subscriber in order to track ~~a the~~ service person.

19. (Original) The system of claim 18, wherein the schedule is generated by accessing the database in order to convert street addresses corresponding to the predetermined sites to coordinate pairs corresponding to the predetermined sites.

20. (Original) The system of claim 18, wherein the coordinate pairs comprise X-Y coordinate pairs or longitude-latitude coordinate pairs.

21. (Original) The system of claim 18, wherein the service person track report includes information indicating whether a site visit was made to each of the predetermined sites.

22. (Original) The system of claim 18, wherein the location identification means acquires location data based on the detection of detection of a specific phone number associated with tracking service personnel or the detection of an emergency phone number.

23. (Original) The system of claim 22, wherein the location identification means forwards the location data to a first device if the specific phone number is detected and forwards the location data to a second device if the emergency phone number is detected.

24. (Original) The system of claim 23, wherein the first device is the processor and the second device is one of a public service answering point, an emergency services router, and a database coupled to a public service answering point.

25. (Original) The system of claim 18, wherein the location data is based on a wireless network-based time difference of arrival (TDOA) computation.

26. (Original) The system of claim 18, wherein the location data is based on a wireless network- based angle of arrival (AOA) computation.
27. (Original) The system of claim 18, wherein the location data is based on a combination of wireless network-based time difference of arrival (TDOA) and angle of arrival (AOA) computations.
28. (Original) The system of claim 18, wherein the location data is based on a location pattern matching (LPM) computation.
29. (Original) The system of claim 18, wherein the location data is based on a global positioning system (GPS) computation.
30. (Currently amended) A method for tracking service personnel, comprising:
~~providing a portable wireless device to a service person;~~
receiving a signal automatically transmitted from a wireless portable device;
acquiring location data of the portable wireless device in response to the received signal;
converting positions based on the location data to corresponding street addresses using a database for converting coordinate pairs to street addresses;~~and~~
generating a service person track report based on the corresponding street addresses; and
transmitting the service person track report to a subscriber.
31. (Original) The method of claim 30, further comprising the step of detecting one of a specific phone number associated with service person tracking and an emergency phone number.
32. (Original) The method of claim 31, further comprising the step of sending the location data to a first device when the specific phone number is detected and sending the

location data to a second device when the emergency phone number is detected.

33. (Original) The method of claim 32, wherein the first device is a processor for performing the step of converting and the second device is one of a public service answering point, an emergency services router, and a database coupled to a public service answering point.

34. (Original) The method of claim 30, wherein the location data is based on a wireless network-based time difference of arrival (TDOA) computation.

35. (Original) The method of claim 30, wherein the location data is based on a wireless network-based time angle of arrival (AOA) computation.

36. (Original) The method of claim 30, wherein the location data is based on a combination of wireless network-based time difference of arrival (TDOA) and angle of arrival (AOA) computations.

37. (Original) The method of claim 30, wherein the location data is based on a wireless network-based time location pattern matching (LPM) computation.

38. (Original) The method of claim 30, wherein the location data is based on a global positioning system (GPS) computation.

39. (Original) The method of claim 38, wherein the portable wireless device includes a GPS receiver.

40. (Currently amended) A method for tracking service personnel, comprising:

~~providing a portable wireless device to a service person;~~

receiving a signal automatically transmitted from a portable device;

acquiring location data of the portable wireless device in response to the received signal;

converting positions based on the location data to corresponding street addresses using a database, the positions comprising X-Y pairs or latitude-longitude pairs, and the database comprising a geographic information system (GIS); ~~and~~

generating a service person track report based on the corresponding street addresses; and
transmitting the service person track report to a subscriber.

41. (Original) The method of claim 40, wherein the step of acquiring corresponds to a periodic time interval.
42. (Original) The method of claim 40, further comprising the step of transmitting the service person track report from a wireless carrier to a subscriber.
43. (Original) The method of claim 40, further comprising the step of preparing a bill based on the service person track report.
44. (Original) The method of claim 40, further comprising the step of gathering efficiency statistics on the service person or a group of service persons based on the service person track report.
45. (Original) The method of claim 40, further comprising the step of comparing the positions to a schedule of predetermined sites in order to confirm whether a site visit was made.
46. (Original) The method of claim 45, wherein the schedule of predetermined sites is generated by accessing the database in order to convert street addresses corresponding to the predetermined sites to coordinate pairs corresponding to the predetermined sites.
47. (Original) The method of claim 45, wherein the step of comparing is based on a threshold.

48. (Original) The method of claim 47, wherein the threshold is based on a distance.
49. (Original) The method of claim 47, wherein the threshold is based on a distance and a time interval.
50. (Original) The method of claim 45, wherein the service person track report includes information describing whether a site visit was made to each of the predetermined sites.
51. (Original) The method of claim 40, wherein the service person track report includes information indicating a duration of time the portable wireless device was at one of the corresponding street addresses.
52. (Currently amended) A system for tracking personnel, comprising
- means for providing two-way communications;
 - means for acquiring location data of the means for providing two-way communications in response to a signal automatically transmitted by the means for providing two-way communications;
 - means for converting the location data into corresponding street addresses;
 - means for comparing the location data to a schedule of predetermined sites in order to determine whether a site visit was made; ~~and~~
 - means for generating a service person track report to be sent by a service provider ~~wireless carrier~~ to a subscriber; and
 - means for transmitting the service person track report to the subscriber.
53. (Original) The system of claim 52, wherein the means for providing two-way communications comprises a cell phone, a two-way pager, or a personal data assistant.

54. (Original) The system of claim 52, wherein the means for acquiring location data is a processor that performs one or more of a global positioning system (GPS) computation, a time difference of arrival (TDOA) computation, an angle of arrival (AOA) computation, and a location pattern matching (LPM) computation.

55. (Original) The system of claim 52, wherein the means for acquiring location data acquires location data based on the detection of a specific phone number associated with tracking service personnel or based on the detection of an emergency phone number.

ai 56. (Original) The system of claim 55, wherein the means for acquiring location data forwards the location data to a first device if the specific phone number is detected, and wherein the means for acquiring location data forwards the location data to a second device if the emergency phone number is detected.

57. (Original) The system of claim 56, wherein the means for converting and the means for comparing comprise a processor at the wireless carrier, and wherein said first device comprises said processor.

58. (Original) The system of claim 52, wherein the service track report includes information of the service person track as a function of time and information describing whether a site visit was made.

59. (New) A system for tracking service personnel, comprising:

a portable wireless device;

location identification means for acquiring location data of the portable wireless device;

a processor at a wireless service provider for converting positions based on the location data to corresponding street addresses using a database for converting coordinate pairs to street addresses;

a schedule containing one or more entries corresponding to predetermined visit sites, each entry in the schedule corresponding to a location to be visited;

at least one threshold associated with a parameter corresponding to a visit to a location; and

au means for generating a service person track report based on the corresponding street addresses and the threshold.

60. (New) The system recited in claim 59, wherein at least one entry in the schedule comprises a visit duration parameter and wherein the at least one threshold comprises a time duration threshold and wherein one of the at least one parameters is duration of the visit, further comprising:

means for determining an actual time duration of a visit to a particular location;

means for comparing the actual time duration with the visit duration parameter associated with the location in the schedule; and

means for confirming the visit if the difference between the determined time duration and the time duration parameter is less than or equal to the time duration threshold.

61. (New) The system recited in claim 59, wherein at least one entry in the schedule comprises at least a time-of-day parameter and wherein the at least one threshold comprises a time-or-day threshold, further comprising:

means for determining an actual time of day of a visit to a particular location;

means for comparing the actual time of day with the time-of-day parameter associated with the location in the schedule; and

means for confirming the visit if the difference between the actual time of day and the time of day parameter is less than or equal to the time-of-day threshold.

62. (New) The system recited in claim 59, wherein the at least one threshold comprises a distance threshold, further comprising:

ai means for determining a distance difference between a particular location actually visited and a location associated with an entry in the schedule;

means for confirming the visit if the distance difference is less than or equal to the distance threshold.

63. (New) The system recited in claim 62, further comprising:

means for determining at least one additional difference distance between the actual location visited and a location associated with at least one additional entry in the schedule; and

means for confirming the visit if each of the additional difference distances is less than or equal to the distance threshold.

64. (New) A method for tracking service personnel, comprising:

providing a portable wireless device to a service person;

acquiring location data of the portable wireless device;

converting positions based on the location data to corresponding street addresses using a database for converting coordinate pairs to street addresses;

creating a schedule containing one or more entries corresponding to predetermined visit sites, each entry in the schedule corresponding to a location to be visited;

selecting a threshold associated with a visit to a location; and

generating a service person track report based on the corresponding street addresses and the threshold.

65. (New) The method recited in claim 64, wherein at least one entry in the schedule comprises a visit duration parameter and wherein the threshold corresponds to a time duration, further comprising:

determining an actual time duration of a visit to a particular location;

comparing the actual time duration with the visit duration parameter associated with the location in the schedule; and

confirming the visit if the difference between the actual time duration and the visit duration parameter is less than or equal to the threshold.

66. (New) The method recited in claim 64, wherein at least one entry in the schedule comprises a time-of-day parameter and wherein the threshold corresponds to a time of day, further comprising:

determining an actual time of day of a visit to a particular location;

comparing the actual time of day with the time-of-day parameter associated with the location in the schedule; and

confirming the visit if the difference between the actual time of day and the time-of-day parameter is less than or equal to the threshold.

67. (New) The method recited in claim 64, wherein the threshold corresponds to a distance, further comprising:

determining a difference distance between an actual visited location and a location associated with an entry in the schedule;

confirming the visit if the difference distance is less than or equal to the threshold.

68. (New) The method recited in claim 67, further comprising:

determining at least one additional difference distance between the actual visited location and a location associated with at least one additional entry in the schedule; and

confirming the visit if each of the additional difference distances is less than or equal to the threshold.

70. (New) The system recited in claim 1, wherein the means for causing the portable wireless device to automatically transmit a signal comprises a timer for controlling timing of transmission of the signal.

71. (New) The system recited in claim 13, wherein the means for causing the portable wireless device to automatically transmit a signal comprises a timer for controlling timing of transmission of the signal.

72. (New) The system recited in claim 18, wherein the means for causing the portable wireless device to automatically transmit a signal comprises a timer for controlling timing of transmission of the signal.

73. (New) The method recited in claim 30, further comprising controlling transmission of the signal using a timer.

Serial No.: 09/811,632
Art Unit: 2682

Attorney's Docket No.: BS00-360
Page 16

74. (New) The method recited in claim 40 further comprising controlling transmission of the signal using a timer.

a 75. (New) The system recited in claim 52, further comprising means for automatically transmitting the signal from the means for providing two-way communications in accordance with a timer.
